

Journal of Media Psychology

Theories, Methods, and Applications

2/12

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Contents

Original Articles		
	It's Right to Be Sad: The Role of Meta-Appraisals in the Sad-Film Paradox – A Multiple Mediator Model <i>Matthias Hofer and Werner Wirth</i>	43
	Analyzing Internet Forums: A Practical Guide <i>Peter Holtz, Nicole Kronberger, and Wolfgang Wagner</i>	55
	A Longitudinal Analysis of US Adults' Pornography Exposure: Sexual Socialization, Selective Exposure, and the Moderating Role of Unhappiness <i>Paul J. Wright</i>	67
	Effects of Passion for Massively Multiplayer Online Role-Playing Games on Interpersonal Relationships <i>Sonja Utz, Kai J. Jonas, and Ellen Tonkens</i>	77
Meeting Calendar		87

Journal of Media Psychology

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Analyzing Internet Forums

A Practical Guide

Peter Holtz,^{1,2} Nicole Kronberger,² and Wolfgang Wagner^{2,3}

¹Friedrich Schiller University, Jena, Germany, ²Johannes Kepler University, Linz, Austria, ³University of the Basque Country, San Sebastián, Spain

Abstract. Within Internet forums, members of certain (online) communities discuss matters of concern to the respective groups, with comparatively few social restraints. For radical, extremist, and other ideologically “sensitive” groups and organizations in particular, Internet forums are a very efficient and widely used tool to connect members, inform others about the group’s agenda, and attract new members. Whereas members of such groups may be reluctant to express their opinions in interviews or surveys, we argue that Internet forums can yield an abundance of useful “natural” discursive data for social scientific research. Based on two exemplary studies, we present a practical guide for the analysis of such data, including data-sampling strategies, the refinement of the data for computer-assisted qualitative and quantitative analysis, and strategies for in-depth analysis. The first study is an in-depth analysis of discourses within a German neo-Nazi discussion board. In the second, nine online forums for young German Muslims were analyzed and compared. Advantages and potential issues with analyzing Internet forums are discussed.

Keywords: Internet forums, message boards, online communication, computer-assisted qualitative data analysis, correspondence analysis

Over the last two decades, the Internet has profoundly changed the way people communicate, be it for private communication or discussions about political and societal issues (e.g., Bargh & McKenna, 2004). An increasing number of studies in the field of psychology have used data from Internet forums as analysis material (e.g., Abdulla, 2007; Copes & Williams, 2007; de Vries & Valadez, 2008; Galasińska, 2010; Holtz & Wagner, 2009; Sneijder & Te Molder, 2004; Tanner, 2001; Williams & Copes, 2005). However, the use of online material for psychological research can still be considered an emerging field (e.g., Skitka & Sargis, 2006). Based on two studies of our own, we will show how Internet forums can yield useful data for social psychological research. In particular, we focus on studies about ideologically “sensitive” communities, which are difficult to access by other means.

First, we will discuss methodological issues concerning the use of Internet forums for social scientific research in general, such as the selection of appropriate forums and material from these forums, the necessary refinement of this material for computer-assisted qualitative data analysis, and possible analysis strategies. Afterwards, we will show how Internet forums can yield useful data for social psychological research, by discussing two studies of our own. In the first example, discourses within a German neo-Nazi forum are analyzed. The second example deals with discourses in Internet forums for young German Muslims.

Methodological Issues

What Is an Internet Forum?

An Internet forum or message board is an online discussion site. Internet forums have a tree-like structure: Usually, different topics are discussed within different thematic sections and sometimes subsections. Within the sections or subsections, users can start a discussion – a so-called thread – with a “starter posting.” Other users can reply to the starter posting or to other users’ comments. These messages are called posts or postings. In many forums, threads and postings can be read by every Internet user, but to achieve the right to post or to start a thread, users have to register and log in. There are other forums where postings can only be read by registered users.

Why Analyze Internet Forums?

Abundant Material

Besides commercially oriented discussion boards, there are also many forums run by religious, political, or other societal interest groups. Members of these groups may know each

other in “real life,” and the groups may also be linked to an “official” nongovernmental organization (NGO), church, or party. Alternatively, they may just be virtual communities (e.g., Rheingold, 1993), without the members knowing each other in person. Usually, these forums are used almost exclusively by members and supporters of the organization or community for discussing matters of concern to the respective interest group. Hence, such forums allow for an analysis of typical discourses taking place within such communities.

An obvious advantage of Internet forums is the almost unlimited amount of material for analysis. Some forums, with thousands of users, feature millions of postings in hundreds of thousands of threads. Even small forums usually contain more than enough text material for any kind of social scientific analysis. Because the material exists already in digital format, labor-intensive procedures like the transcription of audio material are not necessary.

Natural Data With Few Social Constraints

Internet forums are hierarchically structured. Hence, it is comparatively easy to find, select, and sample segments of the forum relevant to the research question. In a sense, forums constitute a kind of unmoderated virtual focus group (Moloney, Dietrich, Strickland, & Myerburg, 2003), in which members of a community discuss topics without a researcher interfering and possibly influencing the expression of thoughts. Hence, material from Internet forums can be considered as relatively authentic natural data.

Being natural data in a virtual social setting also means that the total set of opinions in the forum, very much like focus groups, is more than the posters would have produced individually. Contributions by other forum posters provoke new and often more detailed responses, which may clarify the thinking about an issue in groups, more effectively than in individual interviews, as Stephenson, Kniveton, and Wagner (1991) have shown for group testimony.

In contrast to face-to-face situations, the relative anonymity of the Internet motivates contributors to greater openness. In forums for radical, extremist, or other ideologically sensitive communities, users will express their opinions more freely and may be less concerned about social desirability than in focus groups or other interview settings (Glaser, Dixit, & Green, 2002).

Public Data

The public accessibility of the analysis material makes it comparatively easy for other researchers to retrace the analysis process, from the sampling of the analysis material to the final analysis, and to reappraise the original researchers' conclusions. This adds more transparency to analyses than is usually achieved in qualitative research.

Potential Issues With Analyzing Internet Forums

Anonymity

Whereas the relative anonymity of the Internet is an advantage as it reduces social constraints, it also complicates analysis insofar as there is normally only little sociodemographic information available about the users. Most often, users participate under a fictitious nickname. Even though the age and sex of the posters is often shown as part of their profile, there seems to be no way to verify this information. However, while there is relatively little information on the individual users, it is possible to characterize the social group organizing and using the forum, by taking into account background information such as mission statements or introductory pages. Sometimes, forums are directly linked to NGOs and other interest groups. Even if this is not the case, the operators of the website will usually take an interest in explaining the purpose of their forum themselves. Hence, when the research focuses on discourses within social communities, the lack of information on the individual users may not pose too much of a problem.

Deindividuation

Another issue can be the users' tendency to make more extreme and more offensive statements on the Internet (Williams et al., 2002) than they would in face-to-face situations, due to deindividuation effects (Lea & Spears, 1991; Reicher, Spears, & Postmes, 1995). Deindividuation is facilitated by the lack of identity-related information that characterizes the forums' relative anonymity. A tendency toward more aggressiveness in the virtual realm may be a problem for certain research questions, but there is some empirical evidence that, most of the time, users of Internet forums are indeed giving their real opinions on certain topics, although at times with a relatively aggressive and offensive tone (Glaser, Dixit, & Green, 2002).

Privacy

From an ethical point of view, one could argue that communication in Internet forums is private and should not be used for scientific analysis without the informed consent of the users. This issue was discussed in the fields of sociology, psychology, and medicine (e.g., Eysenbach & Till, 2001; Kraut et al., 2004; Skitka & Sargis, 2006). The general consensus seems to be that there are some forums that are designed to create a kind of private or semiprivate communication sphere. This is the case, for example, with forums and chat rooms that serve as self-help groups for people suffering from certain diseases or for victims of crimes (Eysenbach & Till, 2001; Finn & Lavitt, 1994; Mo, Malik, & Coulson, 2008). In such cases,

and without the users' consent, research can indeed be seen as a massive intrusion into the users' private sphere.

The issue will be different for forums run by political, religious, and other social Interest groups. One of the main functions of such "public" forums is to inform nonmembers about the organizations' agendas and goals and to attract new members. Usually, the postings in these forums can be read by everybody. In our view, this justifies the consideration of communication within such forums as "public behavior" (Herring, 1996), which is intended to be regarded by as many other people as possible. Analyzing such boards without consent may be less of an ethical concern.

Nevertheless, it should not be forgotten that users of such "public" forums may at least be annoyed by the possibility of their postings being analyzed in scientific research (King, 1996). It is necessary, for each single case, to deliberate whether the public interest in the discourse within this respective group outweighs the group members' potential wish for privacy. In any case, the privacy of the users should not be compromised more than necessary. For example, there is usually no need to publish the users' nicknames in scientific publications, making them potentially identifiable. Furthermore, the researcher may try to avoid literal quotes from the forums because the respective postings could be found very easily with an Internet search engine. All in all, a publication should contain as little potentially identifying information about the individual users as absolutely necessary. Nevertheless, there is indeed a trade-off issue here between protecting privacy on the one hand, and transparency and accessibility of data, on the other. The researcher needs to consider how much information to provide, on a case-by-case basis.

Representativeness

It must be acknowledged that in most cases it will not be possible to make claims regarding representativeness for a certain population. Not every member of a given social group may have access to the Internet, and only a few of those who have will engage in discussions within such forums.

If possible, the researcher can use triangulation strategies and compare the results of the analysis of Internet forums with other data sources like focus groups, individual interviews, and quantitative or qualitative survey data. If triangulation is not feasible, the researcher will have to take these limitations into account in the interpretation. Apart from this, an analysis of material from forums in conjunction with background information about the website and its operators can, in any case, be used to formulate hypotheses regarding conditions under which such views as expressed in the forum are more or less likely to be found.

Corpus Construction

Selecting Appropriate Forums

First of all, relevant forums must be defined and selected. When considering using material from Internet forums as a data source, the researcher will most likely be interested in

discourses within certain (online) communities. This implies, first, collecting potentially relevant websites and then checking whether the forums are amenable to analysis in terms of quantity.

The scope of the research project determines the criteria of group and content specificity. If researchers are interested in a small radical or extremist community, they will look for the forum which is most typical for the discourse within this group and which contains the most material relevant to the topic in question (see Example 1). Experts or "insiders" can be helpful in judging the typicality of forums or in characterizing the community running and using the forum.

If researchers are interested in a wide range of discourses within society, they will either select a very large forum – for example, one associated with major newspapers or Internet portals – or they will compare different forums so as to maximize perspectives on a given topic (see Example 2). The researcher can also proceed in a stepwise manner and start out with one or a few forums and then extend the corpus until saturation of perspectives is reached, and no additional variety can be detected (Bauer & Aarts, 2000).

Selecting Appropriate Sections and Threads

After the selection of one or more relevant forums, the researcher will define relevant sections and threads according to the research questions. In general, we consider it preferable to sample more material than seems necessary, as it is always possible to skip unused material. Software packages for qualitative analysis allow for finding relevant text passages within a large data set quickly once the data are in a standard word processing format.

It may happen with large forums or when comparing a number of different forums that not all potentially relevant material can be included in the analysis. This is where sampling comes in. Besides random sampling procedures, it may be interesting to include postings within a certain time period. Then, only threads that transpire within a certain time span will be included in the analysis. Particularly when juxtaposing different forums, researchers are well advised to clearly define, justify, and document their sampling strategies. A mix of incompatible sampling methods will obfuscate differences and similarities between the forums.

Some small forums may pose a problem if postings are not taken up by others and responses are scarce. In most cases, threads with more responses will be preferable, as they allow insights into the development of the discourse. For the same reasons, the researcher will also prefer threads featuring postings by a large number of different users. Under certain conditions it will be of interest to see which topics do *not* provoke much debate and do *not* arouse interest within a community. Then, of course, focusing on threads with comparatively few responses is the method of choice (see Figure 1).

Refining the Material

Depending on the amount of textual material, software packages for computer-assisted qualitative data analysis can be

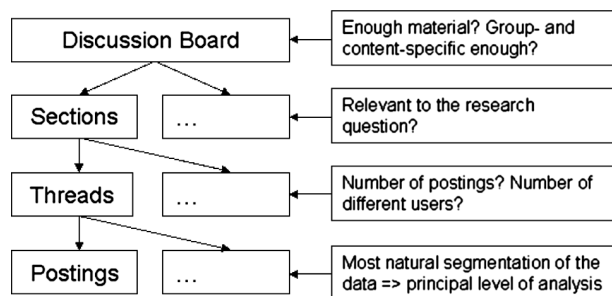


Figure 1. Sampling strategies in view of the hierarchical structure of Internet forums.

helpful or even necessary for project and data management. For example, in our two exemplary studies, text corpora comprising more than 500,000 (Study 1) and more than 800,000 words (Study 2) were analyzed. Without software support, it would be almost impossible to conduct such an analysis. The CAQDAS (Computer Assisted Qualitative Data Analysis) project provides a continuously updated overview of available software.¹

Even though material derived from forums is digitally available, it requires refinement for effective analysis. In our experience, the following steps have proven useful to ensure a smooth procedure. Note that none of the following steps should be done on the original material, but always on a copy – just in case you must go back to the original layout at some point: (a) determine the text format, (b) remove irrelevant elements of the website, (c) apply a uniform layout to the material.

- (a) In a first step, the content of the website is exported into text-processing software and saved on a local storage and backup medium. One should not forget that forums may suddenly go offline for various reasons.
- (b) Second, it is to be decided which elements of the website are relevant for further analysis and which are not. For example, pictures embedded in postings, user avatars, emoticons/smileys, user information, and usernames can sometimes be of relevance for the analysis, but more often they are not and need to be removed along with automatically generated content of the Web page such as headers, footers, forum rules, and advertisements.

Additionally, researchers have to decide how to deal with quotations from earlier postings. If the goal of the study is, for example, to compare expressed opinions on the level of the individual users, keeping quotations can bias the word count. In this case, quotations must be deleted automatically using search and retrieve functions of the text-processing software or by hand. The more researchers are interested in “informal group opinions” (Mangold, 1960) expressed within the forum, the less of a problem are quotations from earlier postings. An exception is where the researcher is interested in interaction patterns. Then it is necessary to explicitly take into account to

which “parent” message a poster is referring (e.g., Jeong, 2005). In this case, quotations should be replaced by markers that point back to the original post from where the quotation was taken.

Finally, because in many cases, the website material will appear as a table, the table should be converted to plain text for further analysis.

- (c) To facilitate the identification of structural elements like postings and threads by computer programs, a uniform format must be applied to the corpus. We recommend first replacing all hard returns with soft returns. Afterwards, we recommend inserting a single hard return, instead of a soft return, where the original poster ends a paragraph and two hard returns to mark the end of the posting. This format allows software packages to code single postings containing certain keywords automatically.

According to our experience, it is helpful to assign every single thread as a primary document in itself in such software packages, also to account for postings belonging to certain threads, and to increase the software packages’ processing speed.

Choosing Methods of Analysis

In principle, data from Internet forums can be used for almost all kinds of qualitative analysis. We will focus in this section on the methods used in our studies and discuss the use of text-reducing methods such as content analysis as well as text-enhancing, in-depth analysis methods, and will look at how to quantify results, if required. For each case, we will also discuss the efficient use of software packages.

Text-Reducing Methods

The general idea of text-reducing methods like content analysis is to capture central themes and contents within a corpus of texts or to compare different text corpora with regard to their themes. To reduce the complexity of the analysis material, the researcher or the research team will develop a set of relevant content categories (Krippendorff, 2004; Mayring, 2000; Weber, 1990).

One of the key methodological questions within a content analysis concerns the definition of the unit of analysis. We recommend using the single posting as unit of analysis. For us, this is the most natural transition (e.g., Krippendorff, 2004) in a communicative exchange within forums. Hence, whenever a posting contains elements that are defined as belonging to a content category, the posting will be coded as featuring this content category, no matter how often the respective category is referenced within the posting. This unit of analysis allows capturing conversation elements, where the sequential structure of the posts mirrors “turn-taking” similar to natural conversations (Sacks, 1995). However, if the researcher is interested, for instance, in speech act

¹ See <http://www.surrey.ac.uk/sociology/research/researchcentres/caqdas/>; retrieved July 13, 2012.

analysis (Searle, 1975), different units of analysis may be required: for example, sentences or propositions within postings.

Using postings as units of analysis in content analytic approaches is also useful when looking at different levels of analysis: These may be opinions expressed by individual users within different threads and sections and discourses about different topics within, for example, different discussion boards. All major software packages for qualitative analyses allow for such a matrix approach combining different hierarchical levels of analysis.

Depending on the research question, different amounts of textual material from forums can be subjected to content analysis. Within a more qualitative content analytic approach (Mayring, 2000; Stemler, 2001), researchers will select a comparatively smaller amount of text. Here, the scientist will develop relevant categories on the basis of the textual material itself. If a more quantitative or automatized content analysis is chosen, the researcher will establish categories prior to the analysis, based on theoretical considerations and prestudies (a priori categories; e.g., Weber, 1990). In this case, a larger amount of material will be analyzed.

Our Example 1 represents a more qualitative content analysis, while in Example 2, we illustrate automatic coding of theoretically derived categories.

Text-Enhancing Methods

If researchers are interested in in-depth qualitative analyses, it is necessary to look more closely at the contextualized discourses and to use text-enhancing qualitative analysis methods as well. To gain a better understanding of certain postings, the researcher will consider contextual and other background information on the forum and the respective social group, such as the introductory pages of the forum and forum rules, other statements from the social groups running the forums, or earlier research on the social groups in question.

In research within the varieties of discursive psychology approaches (e.g., Potter & Wetherell, 1987; Wagner & Hayes, 2005), the researcher will put an emphasis on the style of communication about certain topics and the effects the styles have on participants' responses. Besides, the use of metaphors provides insights into participants' world views (Lakoff & Johnson, 1980). This task is greatly facilitated by modern software packages which assist the researcher in code-based theory building (e.g., Lewins & Silver, 2007), for example, through attach-memo functions, mapping tools, and tools for graphical visualization that highlight relationships between theoretical and discursive elements, issues, and themes.

Taken together, the hierarchical structure of forums informed by a previous content analytic structuring of the corpus makes Internet forums a rich source for in-depth qualitative research.

"Quantifying" Qualitative Data

Even when using primarily qualitative methods, some research will require quantifying of the textual material as

well. This may be the case if there is an interest in clearly determining differences between discursive objects within a forum (Case Study 1) or if the focus is on differences between different groups and their dedicated forums (Case Study 2). An existing file with forum discourses makes it easy to analyze a large enough text corpus, with statistical methods such as multidimensional scaling, clustering, or correspondence analysis.

Texts represent categorical data – words, topics, themes, or objects – that can be arranged in cross-tabulations and subjected to correspondence analysis. The rows and columns of a cross-tabulation reflect row profiles and column profiles as well as the strength of association between row and column categories expressed by the cell count. A correspondence analysis first calculates the margin sums of columns and rows that are the average profile across rows and across columns. Second, each row profile is compared with the margin profile and a chi-square distance or dissimilarity between row and margin profiles is calculated. The same is applied to column profiles. Both result in distance matrices that undergo eigenvalue vector decomposition. The final result is a dimensional representation of each of the row and column categories, as well as of their interrelatedness. The maximum number of dimensions in the result is $n - 1$, where n is either the number of row or of column categories, whichever category number is smaller. Hence, a 4×6 cross-tabulation yields a maximum of 3 dimensions: The number of row categories (4) is less than the number of column categories (6) and 4 minus 1 is 3. Each dimension has a percentage of explained inertia, which can be roughly understood as the degree of explained variance in the data set. Usually, only the graph of the first two dimensions is used to visualize the data. Note that mere proximity of a column and a row category is not enough to establish a relationship. Instead cosine distances are used (for details see, e.g., Greenacre, 1993). The practical use of this method will be shown in the next sections.

Alternative Research Strategies

Data from Internet forums also allow for longitudinal studies. The creation date of the postings is usually displayed below or above the postings and can be coded automatically with software packages. The only practical problem that can arise is if other dates (e.g., registration dates) are also displayed. In most cases, however, these problems can be solved using sophisticated pattern-matching functions like, for example, the GREP search function of ATLAS.ti (e.g., Muhr & Friese, 2004). Otherwise, the researcher must delete such entries by hand.

Research strategies similar to participant observations, quasiexperiments, and natural experiments can be conducted as well. Online participant observation allows the attaining of a close and intimate familiarity with forum members over a period of time and observing their practices in a "natural" environment. Nancy Baym's (2000) study on a soap opera fan community falls under this category.

For quasiexperiments, researchers will participate in a discussion and post certain messages to evoke responses, for example, in different forums. Subsequently, one can analyze the reactions of the users toward these messages.

Glaser, Dixit, and Green (2002) used such an approach within US White supremacist Internet chat rooms.

For research designs à la natural experiments, the researchers will systematically compare, for example, simultaneous reactions to relevant societal and political events in different forums. Recently, Holtz, Wagner, and Sartawi (2012) analyzed reactions to the Swiss minaret ban in secular/moderate as well as fundamentalist/Islamist German-language forums that let the authors discern the fundamentally different styles of discourse in Salafist and more secular online communities. Additionally, Internet forum data also lend themselves to be used with other approaches, such as social network analysis as well.

Example 1: Racist Discourse Within a German Neo-Nazi Forum

Background

The following example draws upon research previously published in Holtz and Wagner (2009). In the course of a research project on essentializing discourse and its consequences for racism, prejudice, and stereotypes (Wagner, Holtz, & Kashima, 2009; Wagner et al., 2010), we analyzed the tendency to essentialize and naturalize in an openly racist extreme-right online community: the Nationales Forum Deutschland (NFD).

In the course of a research project on essentializing discourse and its consequences for racism, prejudice, and stereotypes, and drawing on results published in Holtz and Wagner (2009; e.g., Wagner, Holtz, & Kashima, 2009; Wagner et al., 2010), we analyzed the tendency to essentialize and naturalize outgroups in an openly racist extreme-right online community: the Nationales Forum Deutschland, (NFD; Holtz & Wagner, 2009). Projecting essence onto a social category means to think, talk, and act as if the respective category were a discrete “natural kind” and as if its members were all endowed with the same immutable attributes determined by the category’s essence (Wagner et al., 2009). Within this study, we first looked at which topics and themes are connected to which social groups and then analyzed the role of essentializing or naturalizing discursive strategies.

The Analysis Material

The NFD forum is closely connected to the National Democratic Party of Germany (NPD), which can be classified as an extreme-right party (e.g., Rydgren, 2007). As of July 13, 2010, the NFD was being used by 1,996 registered members. It featured 127,459 postings in 14,924 threads.² The forum consisted of four thematic sections (general topics, news, politics, and regional issues), which were further divided into 34 thematic subsections.

We analyzed all of the 4,997 postings (as of August/September 2006) in the 545 threads from the subsection Society (Gesellschaft) from January 1, 2004, through June 25, 2006. User information, avatars, pictures, and smileys/emoticons were included as well. The 4,997 messages were authored by 317 different users.

Privacy and Ethical Aspects

As far as the privacy of the users is concerned, the NFD is described in the introductory page as a tool serving the networking between the NPD and NPD sympathizers. It is intended to inform the public about NPD positions and party activities and to attract new members to the organization. Hence, the messages in this specific forum can be seen as public behavior. There is also a strong societal and social scientific interest in extreme right-wing discourses, and it would be difficult to access this community by other means.

Qualitative Content Analysis

After technically preparing the analysis material for a computer-aided analysis with ATLAS.ti, we first coded every posting that referred to a particular social group that we determined beforehand. The theoretically identified target groups had to be mentioned in more than 50 postings. The groups which met our criteria and which were ultimately included in the analysis were Africans/Blacks, Jews, Muslims, Poles, and Turks.

Following this, we searched for relevant and frequently occurring content categories or themes, in an iterative process following Mayring (2000). These were exploitation, mind control / harassment, conspiracy, German identity, procreation, sex and rape, criminal behavior, and foreign infiltration. Two independent raters coded a sample of 52 messages with an inter-rater reliability of Cohen’s κ ranging from 0.70 (foreign infiltration) to 1 (sex & rape).

Groups and themes were then cross-tabulated and subjected to correspondence analysis. The two-dimensional graph (Figure 2) shows the extremist discussions connecting social groups to specific themes. Muslims, Turks, and Poles are clustered together with close proximity to the themes of foreign infiltration, sex and rape, and criminality. Blacks/Africans as well as Jews took separate positions and were related to different themes: German identity and procreation for the former group, and exploitation, conspiracy, and mind control/harassment for the latter.

Discursive Analysis of Essentializing Strategies

The relation between the three group clusters and the themes was analyzed in depth. For example, the analysis revealed

² Data gathered from <http://www.nationales-forum-deutschland.de/>, retrieved July 13, 2010; the NFD went offline in late 2010.

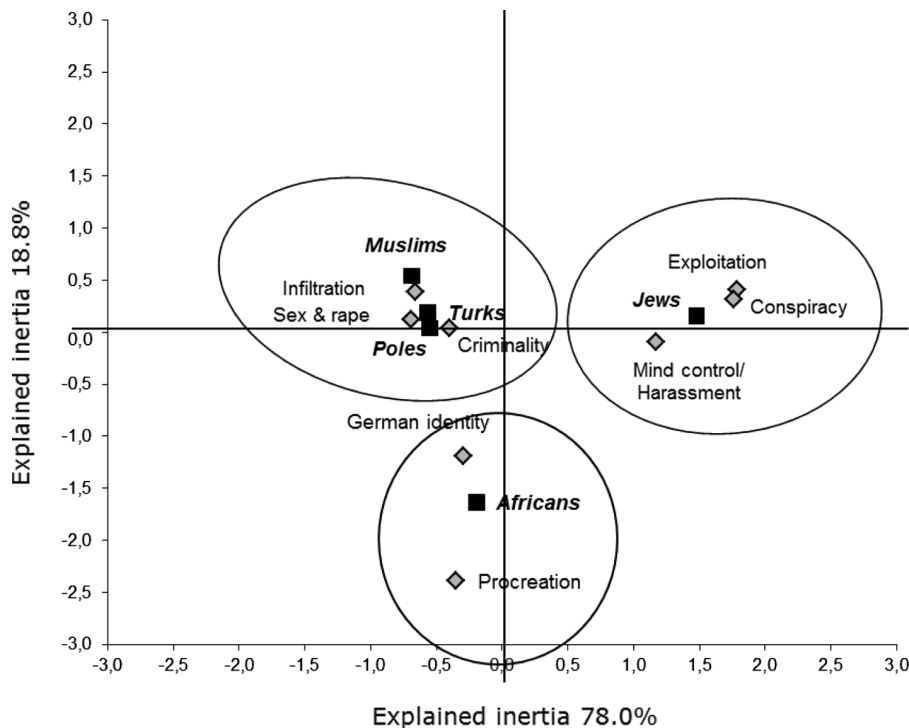


Figure 2. Correspondence analysis of matrix cross-tabulating ethnic groups and themes. Squares indicate the position of groups (in italics); diamonds stand for themes; circles and ellipses show clusters of groups and themes discussed in the section Qualitative Content Analysis (Holtz & Wagner, 2009, p. 418).

that extreme right-wing discourse heavily essentializes the target groups of Jews and Africans/Blacks and ascribes them immutable group-specific attributes that effectively liken them to different “natural kinds.” Thereby, the group of Jews appears as a kind of their own, with superhuman powers and influence. Africans and Blacks are despised, firstly because their supposedly “essential” characteristics prohibit them from being categorically mixed with Germans (i.e., to become German by nationality) due to their incompatible essence, and secondly, when they procreate with Whites. Such procreation produces “bastards” without identity who are met with disgust. Such “hybrids” are unanimously regarded as “miserable creatures,” who are not able to lead fulfilling lives (for details, see Holtz & Wagner, 2009).

Discussion Example 1

This study of a German neo-Nazi forum allowed us to analyze discourses within an extreme right-wing community that would have been almost impossible by personal interviews. Neo-Nazis may not have participated in interview or focus group studies (not to mention the discomfort for the researchers); if they had, they would have avoided certain issues and talked about other groups very differently from how they do so when they feel they are among like-minded people in the forum, thereby superficially obeying the relatively strict laws in Germany against sedition (e.g., Frindte, Wettig, & Wammetsberger, 2005).

Example 2: Lifeworlds of Young Muslims in Germany

Background

In this section, we present results from a study on lifeworlds of young Muslims in Germany. One part of this project encompassed the analysis of data from nine different forums used first and foremost by young German Muslims. Apart from this, the project also featured a longitudinal questionnaire survey and focus groups in three different German cities.

The Analysis Material

In a first step, we explored the range of German-language forums for young Muslims with the help of two research assistants with Turkish as their paternal language. About 50 of these forums were considered for analysis. Based on the size of the forum and the group and content specificity, we selected eight of these forums for closer analysis. Another forum (Delikanet) was included at a later stage to have more material on Turkish-German communities available. The forums' orientations ranged from secular and moderate to very religious and Islamist (Moghaddam, 2005) (see Table 1).

Table 1. Number of analyzed postings, threads, and sampling rules for all nine forums selected for Example 2

Forum name	Link to home page	Number of analyzed postings	Number of analyzed threads	Percentage of eligible threads selected for further analysis
Ansarnet	de.ansarnet.info	274	44	all threads
Ahlu Sunnah	www.ahlu-sunnah.com	966	45	~7%
Ammar 114	www.team114-forum.de	1,036	72	~8%
Delikanet	www.delikanforum.net	817	51	~10%
Dima Dima	www.dimadima.de	558	18	~30%
Misawa	www.misawa.de	741	27	~20%
Muslimaboard	www.muslimaboard.de	365	17	all threads
Vaybee	www.vaybee.de	974	40	~5%
Way 2 Allah	www.way2allah.de	994	63	~10%
Total		6,725	377	

Note. Among all forums, only threads with at least 10 response postings were sampled; in the case of very lengthy discussions, only the first 50 postings were included; in the case of the Ansarnet forum, threads with fewer than 10 response postings were also included.

In a next step, we identified four fields of interest, which further guided our selection of postings and threads from the forum sections and subsections: religion; society and politics; youth-related issues; and family, marriage, and partnership. We balanced the proportion of material for each of the themes across boards and sampled subsections for further analysis.

Except for one forum,³ we only used threads with more than 10 postings responding to the initial post. Whenever possible, we sampled 700–1,000 contributions from each forum posted between early 2008 and mid-2009. Our sampling significantly reduced the material from larger forums, while we used all analyzable material from the smaller Ansarnet and Muslimaboard forums. Altogether, 6,725 postings in 377 threads were analyzed (see Table 1 for details). Due to the abundance of postings, we decided not to include pictures, avatars, etc. in the analysis.

Privacy and Ethical Aspects

All forums state that they intend to inform others about the respective community's aims and goals and to connect similar-minded individuals in their site description. Hence, postings in all of these forums can be considered public behavior. We decided to use these data without informed consent, but we did not analyze any personal information that might have been mentioned.

Analysis Strategy

For further procedures we used both text-reducing and text-enhancing methods. In a first step, we used an automatized content analysis and quantified the results using correspon-

dence analysis. In a second step, we compared discourses on the relevant topics between the different forums.

Content Analysis and Correspondence Analysis

For the content analysis, we started out with 90 categories, which resulted from either theoretical considerations or from a first run through the material. For each content category, keywords were defined, taking into account all possible spellings and synonyms. Next, we used ATLAS.ti to automatically code every posting that contained at least one of the keywords or synonyms of interest. Afterwards, one of the Turkish-speaking researchers checked a control sample of postings for category and keyword consistency.

The resulting categories were prepared for statistical analysis: Very rare categories were dropped and very similar or overlapping categories were merged. For example, the category *religious expressions* was not included in the following analysis, because some forums used religious expressions like “Insha’Allah” (i.e., if it is God’s will) in virtually every posting. Finally, the cross-tabulation of the nine forums by the remaining 40 content categories was subjected to correspondence analysis (Figure 3).

Correspondence Analysis Guides Further Qualitative Inquiry

In the following, we interpret the forum clusters and their relation to themes to illustrate the “typical” discourses (Figure 3). The Vaybee and the Delikanet forums are positioned in cosine proximity to themes of integration and everyday life as a foreigner in Germany. Identity-related

³ The extremist Ansarnet forum was only used by a handful of users. Nevertheless, we considered this forum to be important, as we also wanted to include data from a very radical Muslim community. Hence, we decided to use every possible thread from the Ansarnet forum regardless of the number of response postings. The Ansarnet forum went offline in early 2010.

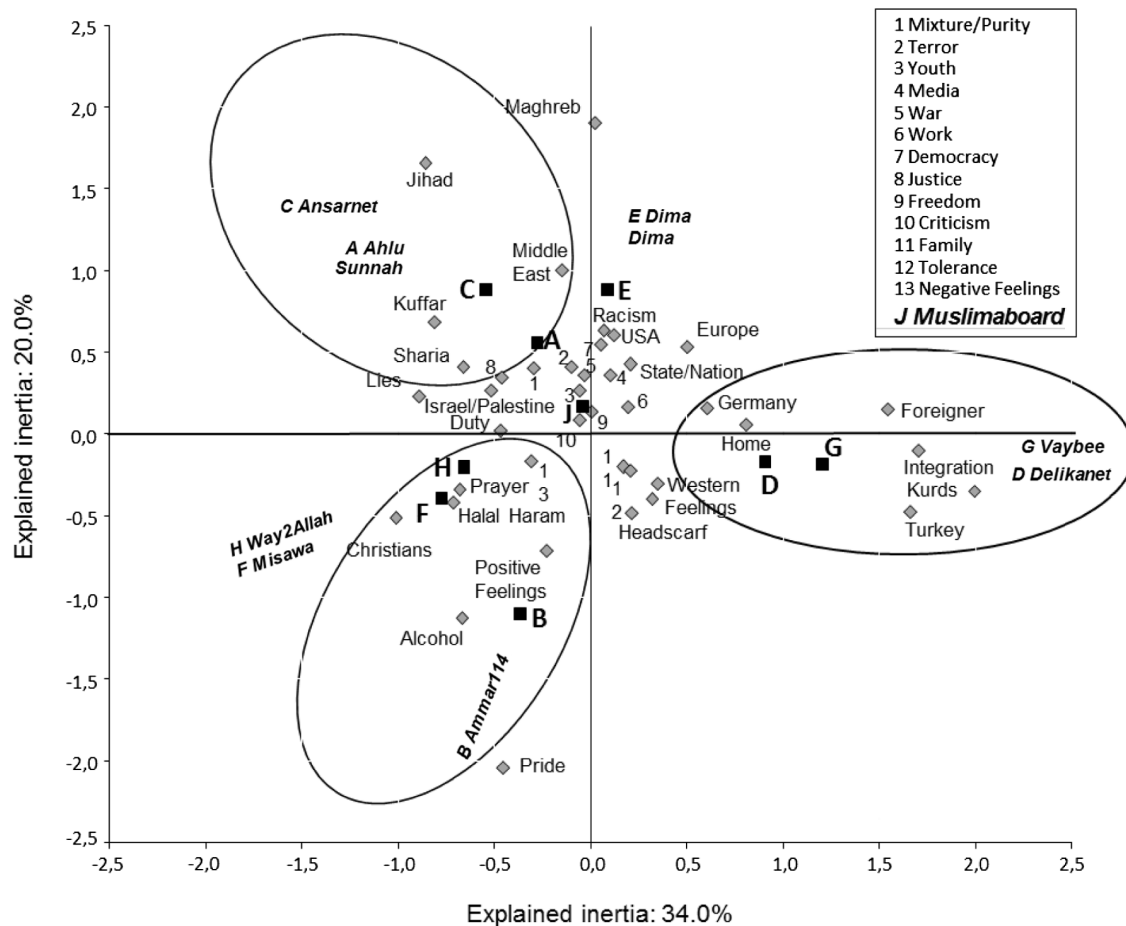


Figure 3. Correspondence analysis of matrix cross-tabulating forums and related themes. Squares indicate the position of forums (in italics); diamonds stand for themes; ellipses visualize clusters of forums and themes discussed below.

topics are also typical for these forums. The Vaybee and the Delikanet forums unite secular immigrant communities (mostly second- or third-generation immigrants from Turkey) who are motivated to integrate into the German host culture. They display hyphenated identities (e.g., Sirin & Fine, 2007) by labeling themselves as German-Muslims, Turkish-Germans, or German-Turks.

The Way 2 Allah, the Misawa, and the Ammar 114 forums are positioned close to religious topics like prayers, commandments, and religious dialogue with Christians where the concept of *duty* is important as well. They can be described as religious or – at least in the case of the Way 2 Allah forum – fundamentalist (Almond, Appleby & Sivan, 2003; Herriot, 2007). However, politics do not play an important role for them.

The Ahlu Sunnah and the Ansarnet forums are positioned close to topics that are typical for Islamist discourses, such as jihad and sharia. There are also frequent references to political issues such as the Near East and the Middle East conflicts. Revealingly, the term *kuffar* (infidel) is used widely in these forums. Discursive analysis shows, on the one hand, that *kuffar* is used to emphasize the essential differences between Muslim and Western culture. On the other hand, it is used as a derogatory term for Muslims attempting

to integrate into Western culture. These two communities can be described as Islamist.

The Dima Dima forum is positioned right between the Islamist and the secular forums with political topics being typical. It can be described as a forum where religion does not play a primary role but in which users sometimes express radical political views and in which heated political debates frequently take place.

Finally, the position of the Muslimaboard forum – a forum only for Muslim women – shows that in this forum, all thematic units are mentioned and discussed in an almost equal proportion.

Discussion Example 2

The quantified information from correspondence analysis was used as a guide for the more in-depth qualitative inquiry. Determining the thematic orientation and prevalence of each forum would have been much more difficult by qualitative eyeballing only. Hence, with a large text corpus, a first correspondence analysis is the method of choice.

Its result also allowed us to verify our sampling procedure to include forums encompassing moderate/secular,

religious/fundamentalist, and Islamist/radical groups. Another interesting finding was that besides groups which are not very religious and politically radical (“moderates”) and groups which are very religious and politically radical (“Islamists”), there are also groups which are very religious but in no way politically radical, and groups which are politically radical but not very religious. Hence, when looking at radicalization processes among young German Muslims, one’s theoretical “space” must be multidimensional rather than one-dimensional to capture the various shades of lifeworlds existing in an immigrant community (Howarth, Wagner, Magnusson, & Sammut, 2012).

General Discussion

Data from Internet forums can be used for a wide range of psychological research. In our own studies, we focused on social psychological research on ideologically sensitive communities, which are difficult to assess by means of interviews or survey studies.

The main advantages of Internet forums are the amount of easily accessible data, the content and group specificity, and the naturalness and authenticity of the data. These advantages can also turn into weaknesses: There is relatively little information on the individual users, and the researcher has to find methodological ways to effectively make use of the huge amount of data. Consequently, fitting sampling strategies must be developed for each case. Automatized or partly automatized analysis strategies can be used as a means for getting a first overview of the data and for facilitating further in-depth qualitative analyses. In our two exemplary studies, we used a combination of content and discourse analytic approaches. Whereas Study 1 showed an in-depth analysis of discourses within one single online forum, in Study 2, nine online forums, mainly used by young German Muslims, were compared.

In these examples, we used Internet forums primarily for analyzing “informal group opinions” (Mangold, 1960) within these communities. Such group opinions should not be understood in the narrow sense of consensually shared arguments or evaluations. More than concrete positions on matters of opinion, group opinions define *what is at the center of attention* for a social group (Mangold, 1960, p. 49). Whereas other lines of research focus on the particularities of online communication, here Internet forums are used as a proxy for everyday discourses within informal networks. As in focus groups, the interdependence of statements by different persons is in this sense not a bane, but a boon, as analyzing reactions toward statements by other community members allows for insights into typical sense-making processes using unobstructed “naturalistic materials” (Potter & Hepburn, 2005).

In every single case, the intrusion into the users’ private sphere must be weighed against the scientific benefit of the study. In our opinion, forums that were created with the aim of informing others about the respective communities’ goals and attracting new members are among the least problematic as far as privacy is concerned.

Every step of the research process, from the identification of relevant websites, to the sampling and preparation of the data, to the final analysis, is to be guided by the dominant research interest and should be thoroughly documented. Given the novelty of this line of research, detailed documentation of the researchers’ decisions and their justifications can be included in reports and papers in much more detail than with research using widely established qualitative methods. For the future, these developments promise exciting new insights into social behavior.

Acknowledgments

Exemplary Study 2 was supported by a research grant from the German Federal Ministry of the Interior to Wolfgang Frindte (Jena University, Germany), Klaus Boehnke (Jacobs University, Bremen, Germany), Wolfgang Wagner (Linz University, Austria), and Henry Kreikenbom (aproxima – market research agency, Weimar, Germany).

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Date of acceptance: May 4, 2012



Peter Holtz is research coordinator (post-doctoral) at the Centre for Teacher Education at Friedrich Schiller University, Jena, and lectures at Johannes Kepler University, Linz, Austria. Some of his research interests include psychological essentialism, the effects of the "New Media" on children and adolescents, processes of identity construction, and religious fundamentalism.

Peter Holtz
Institute of Education
Friedrich Schiller University Jena
Am Planetarium 4
07743 Jena
Germany
Tel. +49 3641 945-094
Fax +49 3641 945-092
E-mail peter.holtz@uni-jena.de



Nicole Kronberger is assistant professor in the Department of Social and Economic Psychology at Johannes Kepler University, Linz, Austria. Her research interests focus on social psychological phenomena such as stereotypes, risk perceptions, moral reasoning, and values, mostly in the context of public sense-making processes of technologies.



Wolfgang Wagner is head of the Department of Social and Economic Psychology at Johannes Kepler University, Linz, Austria. His research interests focus on public understanding of science, psychological essentialism, social representation theory, identity construction, stereotyping, and religious fundamentalism.